IN THE CLAIMS:

Claims 1-13 (canceled).

Claim 14 (currently amended): ~~The~~ A catalyst ~~of claim 9~~ for the preparation of a cyclopentenone ring from the reaction of carbon monoxide, an alkene-containing compound and an alkyne-containing compound, comprising:

a catalytically active component selected from the group consisting of a transition metal-containing carbonyl compound, a π-alkyne-transition metal-containing carbonyl complex and mixtures thereof;

a support; and

a linking group connecting the catalytically active component to the support,

wherein

the alkyne that is part of the π-alkyne-transition metal-containing carbonyl complex is the same as the alkyne-containing compound or is readily displaced by the alkyne-containing compound, and ~~wherein~~

the alkyne-containing compound and the alkene-containing compound are separate compounds.

Claim 15 (currently amended): ~~The~~ A catalyst ~~of claim 9~~ for the preparation of a cyclopentenone ring from the reaction of carbon monoxide, an alkene-containing compound and an alkyne-containing compound, comprising:

a catalytically active component selected from the group consisting of a transition metal-containing carbonyl compound, a π-alkyne-transition metal-containing carbonyl complex and mixtures thereof;

a support; and

a linking group connecting the catalytically active component to the support,

wherein

the alkyne that is part of the π-alkyne-transition metal-containing carbonyl complex is the same as the alkyne-containing compound or is readily displaced by the alkyne-containing compound, and ~~wherein~~

the alkyne-containing compound and the alkene-containing compound are the same compound.

Claim 16 (canceled).

Claim 17 (previously presented): A process for the preparation of a cyclopentenone ring which comprises reacting carbon monoxide, an alkyne-containing compound and an alkene-containing compound in the presence of a catalyst, where the catalyst comprises:

a catalytically active component selected from the group consisting of a transition metal-containing carbonyl compound, a π-alkyne-transition metal-containing carbonyl complex and mixtures thereof;

a support; and

a linking group connecting the catalytically active component to the support,

wherein the alkyne that is part of the π-alkyne-transition metal-containing carbonyl complex is the same as the alkyne-containing compound or is readily displaced by the alkyne-containing compound.

Claim 18 (previously presented): The process of claim 17, wherein two transition metals, which can be the same or different, are present in each catalytically active component.

Claim 19 (previously presented): The process of claim 17, wherein the support is a polymer or resin.

Claim 20 (previously presented): The process of claim 17, wherein the alkyne-containing compound and the alkene-containing compound are separate compounds.

Claim 21 (previously presented): The process of claim 17, wherein the alkyne-containing compound and the alkene-containing compound are the same compound.

Claim 22 (previously presented): The process of claim 17 or claim 18, wherein each transition metal present in the catalytically active component is independently selected from the group consisting of cobalt, rhodium, iridium, tungsten, molybdenum, titanium, nickel, iron and ruthenium.

Claim 23 (previously presented): The process of claim 22, wherein each transition metal is cobalt.